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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,277

01/21/2004

Jason Sterne

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

09/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,277

Applicant(s)

STERNE ET AL.

Examiner

Jeffrey M. Rutkowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 8-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 01/21/2004.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. **Claims 1-7**, drawn to a method of metering the packet rate of a packet flow, classified in class 370, subclass 232.
 - II. **Claims 8-12**, drawn to an Access Control List (ACL), classified in class 370, subclass 230.
 - III. **Claims 13-20**, drawn to a line card for a router, classified in class 370, subclass 351.
 - IV. **Claim 21-22**, drawn to a counter for measuring packet rate, classified in class 370, subclass 233.
2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention I is configuring the packet rate interface for an ACL. The ACL in invention I could also be an ACL functioning in other modes such a limiting access to resources based upon network ports. The subcombination has separate utility such as the ACL could be used in a network endpoint, such as a web server.
3. Inventions I and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require

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the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the use of a state register field. The subcombination has separate utility such as for counting the amount of traffic in a network test device.

4. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention III could also be an ACL functioning in other modes such a limiting access to resources based upon network ports. The subcombination has separate utility such as the ACL could be used in a network endpoint, such as a web server.

5. Inventions III and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention III does not require the use of a state register field. The subcombination has separate utility such as for counting the amount of traffic in a network test device.

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The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

6. Inventions II and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination invention IV has separate utility such as for use as counting the amount of traffic in a network test device. See MPEP § 806.05(d).

The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

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7. Inventions I and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, invention III (line card) could be used on a firewall device.

8. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

9. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained.

Withdrawn process claims that are not commensurate in scope with an allowable product claim

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will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

10. During a telephone conversation with Mark Woodall on 08/27/2007 a provisional election was made **with traverse** to prosecute the invention of group I, **claims 1-7**. Affirmation of this election must be made by applicant in replying to this Office action. **Claims 8-22** are

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withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

11. The specification's disclosure is objected to because it does not provide proper antecedent basis for placing discarded packets in an extraction queue [see claim 7]. The specification only provides antecedent basis for placing denied packets into an extraction queue [see Pg Pub of instant application, 0034]. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. **Claim 1** is rejected under 35 U.S.C. 102(e) as being anticipated by Hussain et al. (US Pat 7,177,311), hereinafter referred to as Hussain.

13. For **claim 1**, Hussain teaches a flow meter structure (access control list) is associated with a packet flow. The flow meter structure contains various statistics associated with the packet flow, including packet counts for a time interval (configuring a packet rate limit for an ACL (access control list) interface, defined by a maximum number of packets Pmax acceptable in a time interval Trefresh). When a packet is received, the current packet flow count is compared to a predetermined maximum value (counting the number of packets P received at said ACL interface). If the maximum value is exceeded, the packet for that flow is dropped [col. 11 line 55 to col. 12 line 5 and figure 5] (discarding all packets arriving at said ACL after Pmax has been reached).

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Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hussain in view of Cheriton et al. (US Pg Pub 2004/0252693), hereinafter referred to as Cheriton.

17. For **claim 2**, Hussain teaches everything in parent **claim 1**. Hussain teaches a flow meter structure (ACL) contains various statistics associated with a packet flow, including a maximum number of packets over a time interval [see **claim 1**]. Hussain does not teach whether or not the parameters of the flow meter structure are configurable. Cheriton teaches the configurable parameter limitation absent from the teachings of Hussain by disclosing a Time-To-Live (TTL) tag, which is included in an ACL, can be revised by a network administrator [0041] (wherein Pmax and Trefresh are configurable).

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18. It would have been obvious to a person of ordinary skill in the art at the time of the invention to allow a network administrator to configure the time interval and maximum number of packets in Hussain's invention to give the user flexibility to implement the ACL in a manner that best suits their particular needs.

19. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hussain in view of Kesavan (US Pg Pub 2004/0062200) and Ozveren (US Pat 5,432,784).

20. For **claim 3**, Hussain teaches everything in parent **claim 1**. Hussain teaches the flow meter structure includes a counter (providing a packet rate limit counter at said ACL interface and initiating said counter at a value StartCount). The counter is incremented each time a packet is received [**col. 11 lines 55-64**] (incrementing the counter with each received packet of said packet flow to provide a CurrentCount). The teachings of Hussain disclose the counter must be less than a maximum count value [**see claim 1**]. Hussain's teachings are not clear as to the initial value of the counter. Ozveren expands on the teachings of Hussain by disclosing a counter can be initialized either to zero or some number greater than zero [**col. 7 lines 10-16**]. Hussain does not teach a counter refresh interval. Kesavan teaches the counter refresh interval absent from the teachings of Hussain by disclosing a counter is reset when a time interval has expired **505** [**figure 5**] (resetting said counter at said time intervals Trefresh).

21. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Ozveren's counter initialization values in Hussain's invention as a way to indicate whether or not flow bandwidth should be limited. It also would have been obvious to a person of ordinary skill in the art at the time of the invention to use Kesavan's time interval refresh in Hussain's invention to ensure the counter does not erroneously start dropping packets.

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22. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussain as modified by Kesavan and Ozveren as applied to **claim 3** above, and further in view of Hao (US Pat 6,851,008).

23. For **claim 4**, the combination of Hussain, Kesavan and Ozveren teach everything in parent **claim 3**. Hussain teaches if a packet for a flow exceeds a maximum packet count over a time interval, the packet is dropped [see **claim 1**]. Hussain does not teach all packets are dropped when saturation occurs. Hao teaches the dropping of all packets limitation absent from the teachings of Hussain by disclosing saturation occurs when a memory buffer exceeds a “DROP” threshold. In response, a system will start dropping incoming data packets [col. 7 lines 12-15] (discarding all packets arriving at said ACL interface after said counter reached a saturation value CountSat).

24. It would have been obvious to a person of ordinary skill in the art at the time of the invention to drop all packets when saturation occurs in Hussain’s invention to prevent a catastrophic failure of the system.

25. For **claim 5**, the combination of Hussain, Kesavan and Ozveren teach everything in the parent **claim 3**. The rejection of **claim 4**, discusses the limitation of discarding of all packets when a saturation value has been reached and provides the motivation to combine (discarding all packets arriving at said counter after said counter reached a saturation value CountSat). Hussain does not teach dropped packets are counted. Kesavan teaches the counting of dropped packets limitation absent from the teachings of Hussain by disclosing a storm control device drops packets until the number of or byte count value of dropped packets for a time interval falls below a lower threshold value. The dropping of packets occurs when an upper threshold in a preceding

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time interval is exceeded [0032] (counting the number of the packets discarded since said counter reaches said saturation value until said Trefresh).

26. It would have been obvious to a person of ordinary skill in the art at the time of the invention to count the number of packets discarded over a time interval in Hussain's invention to keep track of the interface rate.

27. For **claim 6**, the combination of Hussain, Kesavan, Ozveren and Hao teach everything in the parent **claim 5**. Hussain teaches the flow meter structure contains a single counter [col. 11 line 63] (wherein counting of the discarded packets is performed with said counter).

28. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hussain in view of Shimojo et al. (US Pat 6,643,256), hereinafter referred to as Shimojo.

29. For **claim 7**, Hussain teaches everything in parent **claim 1**. Hussain does not teach dropped packets are placed into a queue. Shimojo teaches the queuing of dropped packets limitation absent from the teachings of Hussain by disclosing a unselected packet can be stored inside the queue of a packet buffer instead of being immediately discarded [col. 10 lines 17-21] (further comprising placing the discarded packets in an extraction queue for further examination).

30. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Shimojo's packet buffer to queue unselected packets in Hussain's invention to allow for faster connection re-establishment once a flow's packet rate falls below the maximum allowed count.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey M. Rutkowski whose telephone number is (571) 270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jeffrey M Rutkowski
Patent Examiner
08/28/2007

JMR


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